

AN 110:197629 HCA
 TI Fine copper wires and their manufacture
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 PA Furukawa Electric Co., Ltd., Japan; Furukawa Tokushu Kinzoku Kogyo K. K.
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63235442	A2	19880930	JP 1987-69591	19870324

AB The wires (Cu purity .gtoreq.99.999 %)
 %) esp. for electronic devices are manufd. from Cu contg. Fe, Ag, and/or Sn 0.1-9 and Zr 0.1-2.5 ppm, with the total amt. of the alloying elements 0.2-9.5 ppm, by melting and casting in vacuum or nonoxidizing atm., drawing at final drawing ratio $r = 70-99.9\%$, and annealing to give elongation $e = 2-20\%$. Thus, Cu contg. Zr 0.8 and Fe 4.2 ppm was melted, cast into a 25 .times. 140-mm billet, machined to 20 .times. 100-mm specimen, hot rolled to 10-mm diam., drawn at $r = 92\%$, vacuum annealed at 350.degree. to 25-.mu.m-diam. wire, and finally annealed at 250-400.degree. in Ar. The resp. rupturing load and elongation for the obtained wire were 12.3 g and 14.3% vs. 12.1 g and

4.18

for the conventional fine Au wire. The obtained Cu wire also showed excellent bonding properties.